

IN THE CLAIMS

1. (currently amended): A self-aligned process for a flash memory, comprising the steps of:

depositing a first polysilicon layer, an ONO layer, a second polysilicon layer, a tungsten silicide, and a hard mask layer in a stack over a tunnel oxide layer for a gate structure having a sidewall;

forming a drain and source regions with said gate structure as a mask;

cleaning said tungsten silicide layer with a solution having a high etch selectivity to said tungsten silicide;

performing an annealing process comprising hydrogen and oxygen gases; and

forming a spacer on said sidewall such that buffer gaps are formed in said sidewall between said etched tungsten silicide and said spacer, whereby thermal expansion stress is reduced.

2. (currently amended): [[A]] The self-aligned process according to claim 1, wherein said step of cleaning said tungsten silicide layer comprises applying an SC-1 solution to said tungsten silicide layer.

3. (currently amended): [[A]] The self-aligned process according to claim 1, wherein said step of performing an annealing process comprises applying a rapid thermal treatment.

4. (canceled)

5. (currently amended): ~~A self aligned process according to claim 4,~~

A self-aligned process for a flash memory, comprising the steps of:

forming a gate stack including a metal silicide on a tunnel oxide layer;

forming drain and source regions with said gate stack as a mask;
etching a sidewall of said metal silicide;
performing an annealing process comprising hydrogen and oxygen gases; and
forming a spacer for said gate stack such that buffer gaps are formed between said etched
sidewall of said metal silicide and said spacer, whereby thermal expansion stress is reduced;
wherein said step of etching a sidewall of said metal silicide comprises applying a
solution having a high etch selectivity to said metal silicide.

6. (currently amended): [[A]] The self-aligned process according to claim 4, wherein said
step of performing an annealing process comprises applying a rapid thermal treatment.

7. (currently amended): [[A]] The self-aligned process according to claim 6, wherein said
step of applying the rapid thermal treatment comprises [[a]] heating in an atmosphere containing
oxygen free radicals in a chamber.

8. (canceled)

9. (currently amended): [[A]] The self-aligned process according to claim 8, wherein said
reactor has a pressure of about 5 to 50 torr[[s]].